

# Aero Design Ltd.

## Work Order Control Sheet

Work Order#: 2015-36 Date Opened: 14 Apr 2015 Title: Fabrication

Aircraft OEM: Eurocopter/Bell Aircraft Model: AS350/355/407 Product Type: Lid Product Model: Medium/Standard Quantity: 10

### Work Order Contents

	Initial or N/A
Work Order/Build Sheets (Procedures Provided)	JR
Additional Work Sheets (Standard Practice)	N/A
Drawings (See List Below)	JR
Parts Distribution Sheet	JR
Sub Component Tags	N/A
Completed Certification (Original)	N/A
Time Sheet (R&D)	N/A
Notes	N/A

### Build Sheet Contents

	Initial or N/A
Tasks Initialled	JR
Dual Inspections Initialled	JR

### Drawing List

Drawing #	Rev #	Description	Initial or N/A
69812	4	Lid	JR

### Component Completion

	As Instructed
Quantity Complete on This Work Order	10
Quantity Incomplete on This Work Order	N/A
Further Processing Required Before Release	N/A
Release to Stock as Components	JR

### Certification

	Initial or N/A
Form One Completed	N/A
Serviceable (Green) Tag Completed	N/A
In Process (Yellow) Tag Completed	N/A
Unserviceable (Red) Tag Completed	N/A
Parts Tracking (White) Tag Completed	JR
Parts Placed in Stores for Distribution	N/A

### Additional Documentation

	Initial or N/A
Documentation of a minor change	N/A
Non-Conformance Report Required	N/A
Service Difficulty Report Required	N/A

### Billing

	Initial or N/A
Local (Aero Design)	JR
Research and Development	N/A
Third Party	N/A

### Traveller

Initial or N/A


Work performed by:

Print: j Rekve for M Rekve

Sign: 

SCA: AD01

Date: 12-May-15

ICC / Dual Inspection preformed by:

Print: Jason Rekve

Sign: 

SCA: AD01

Date: 12-May-15

Work Order closed by:

Print: Jason Rekve

Sign: 

SCA: AD01

Date: 12-May-15

Approved Manufacturing Facility 73-04

Form 20.D.03

Rev. Original 23 Sep 2014

## CARGO BASKET LID FABRICATION - COMMON

### General

These instructions apply to all cargo basket lid assemblies. Refer to the following drawings, at the current revision, for dimensions and details:

#### Bell 206L/407 – Right side only

69812, Revision 3 – Standard Low Mounted Basket; Extra-Wide Low Mounted Basket

94612, Revision 0 – Extra-Wide Low Mounted Ski Basket

76612, Revision 0 – High Mounted Ski Basket

#### Eurocopter AS350/AS355 – left or right

77612, Revision 1 – Short Basket

→ 69812, Revision 3 – Medium Basket (left and right) *REV 4 CURRENT*

78412, Revision 2 – Long Basket

94012, Revision 0 – Extra Large (ski) Basket

#### Robinson R44 – left or right

90612, Revision 0 – Standard Basket (left or right)

#### Bell 206B – right side only

80212, Revision 0 – Short Basket

80312, Revision 0 – Medium Basket

81112, Revision 0 – Long Basket

#### Bell 429 – right or left

95912, Revision 0 – Standard Basket

#### Bell Medium – left or right

75112, Revision 0 – Standard Basket

95512, Revision 0 – Extra Large (ski) Basket

#### MD600

82812, Revision 0 – Standard Basket

#### Options

70405, Revision 3 – Walkway

70402, Revision 1 – Lid Door

## CARGO BASKET LID FABRICATION

Complete  
(initial or SCA #)

Work Order: 2015-36

Date Open: 14 APR 2015

### 1. Rim Assembly – Basket Lid

ADG

- a. Cut and fit  $\frac{3}{4}$ " x 0.035 material to fit rim jig, 45 degree ends.
  - i. 1 or 2 lid prop bushing holes in short tube – refer to drawing
- b. Record material PO on attached material list.
- c. Remove writing on tubes with acetone and scotch bright.

### 2. Weld Rim Assembly

AD-05 x4

- a. Record welding rod PO on attached material list.

### 3. Inspection

ADG

- a. Rim for complete welds

### 4. Frame assembly – Lid

ADG

- a. General
  - i. Vent holes shall be #30 (0.129), and located inside the structure wherever possible to allow venting of weld gasses through existing holes (i.e. lid prop bushing)
- b. Insert rim from step 2 into jig.
- c. Cut and fit  $\frac{3}{4}$ " x 0.035 material, 21" long, for lid cross members.
- d. Record material PO on attached material list.
- e. Remove writing on tubes with acetone and scotch bright.
- f. Drill vent holes into rim to vent cross members into rim.
- g. Locate cross members in lid rim. Refer to drawing for spacing of cross members. Clamp cross members with C-clamps to jig.

### 5. Frame assembly – Lid with optional walkway modification

ADG

- a. Fit cross members to rim in accordance with step 4.
- b. Attach walkway jig with C-clamps. Ensure correct orientation of rim, refer to drawing.
- c. Cut  $\frac{1}{2}$ " x 0.035 material for walkway stringers to fit between lid cross members. Record material PO on attached material list.
- d. Drill vent holes into cross members at walkway stringers.
- e. Align walkway stringers on walkway jig using cleco clamps near both ends of each stringer, and clamp stringer to jig using a C-clamp in the centre.

### 6. Weld frame assembly.

AD-05 x4

- a. Record welding rod PO on attached material list.
- b. Jigs must remain in place for as long as practical during welding.

### 7. Inspection

ADG

- a. Frame assembly for complete welds.



## CARGO BASKET LID FABRICATION

Complete  
(initial or SCA #)

ADOG

### 8. Mesh assembly.

Note: 95912 (Bell 429) does not have mesh. Skip to step 10.

- Pull sheet of expanded mesh from stock. Record material PO on attached material list.
- Cut mesh to size for lid.
- Remove surface rust with scotch-brite.
- Ensure lid is prepared for mesh on the correct side.

### 9. Weld mesh to frame assembly per drawing.

AD-05 x 4

- General welding requirements for all lids:
  - Every intersection on all edges.
  - First 5 intersections along cross members, then every second intersection.
- MIG weld both short sides.
- Clamp lid over spacer at centre of lid to pre-tension mesh.
  - $\frac{3}{4}$ " for lids under 76"
  - 1" (check) for lids over 76"
- Weld remainder of mesh as indicated in a.
- Record welding rod PO on attached material list.

### 10. Weld lid components.

AD-05 x 4

- Handle brackets, locate in accordance with drawing.
  - Standard location:  $\frac{1}{4}$ " outside of last cross member on both ends.
  - Record handle bracket WO and welding rod PO on attached material list.
- Lid prop bushing(s).
  - one or two in accordance with drawing.
  - Record lip prop bushing WO and welding rod PO on attached material list.
- Placard bracket. – not installed on 95912 (Bell 429)
  - Locate on cross member to set bracket in centre bay of lid.
  - Record placard bracket WO and welding rod PO on attached material list.

ADOG

### 11. Clean up

- Grind high spots off mesh welds.
- Tighten mesh using special pliers. Tighten enough to remove "oil canning", where mesh springs in or out.
- Straighten lid using frame attached under welding table. Work carefully, avoid excessive force to prevent kinking rim tubes.
- Drill #9 through lid prop bushing(s). De-burr hole(s).
- Drill for lid bumpers using  $\frac{1}{4}$ " (#3) centre drill.
  - 3 places for lids under 76"
  - 4 places for lids over 76"
- Remove surface rust with scotch-brite pad.

### 12. Final Inspection

To be completed by a different person than the previous steps.

- Basket lid assembly for complete welds, and required minimum mesh weld locations.
- Material lists complete.
- Overall condition and conformity to drawing(s).

AR

## CARGO BASKET LID FABRICATION

Complete  
(initial or SQA#)

OK

### 13. Powder Coating

- a. Parts are to be powder coated white in accordance with commercial practices.
- b. Record powder coating PO.
- c. Inspect powder coating on receiving.
- d. Tag lid assembly and place into stock in preparation for assembly.

Work Order: ~~2015-38~~ 2015-36

Date Opened: 17 APR 2015

Material Tracking Sheet  
Bell 206L / 407 and Eurocopter AS350 / AS355  
Standard Lid Fabrication

1 of 2

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
			69812-01	Lid Assembly		
Step 1				Rim Assembly		
	. 2		--	3/4" Tube - Long Rim (75.75")	4130 Steel, 3/4" x 0.035 Sqr. Tube	14009 14099
	. 2		--	3/4" Tube - Short Rim (22.5")	4130 Steel, 3/4" x 0.035 Sqr. Tube	14009
Step 2				Weld Rim Assembly		
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	14033
Step 3				Inspection - Rim	None	
Step 4				Frame Assembly		
	. 3		--	3/4" Tube - Cross Member (21")	4130 Steel, 3/4" x 0.035 Sqr. Tube	14099
Step 5		70405		Option: Frame Assembly - with walkway		
	. 8		--	1/2" Tube - walkway	4130 Steel, 1/2" x 0.035 Sqr. Tube	14099
Step 6				Weld Frame Assembly		
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	14033
Step 7				Inspection - Frame Assembly	None	
Step 8				Mesh Assembly		
	. 1		--	Mesh (lid - 75" x 22")	3/4-16F Expanded Mild Steel sheet	12130/14012
Step 9				Weld Mesh		
	. A/R		--	Welding Rod	ER70S-6 MIG Wire	14028

Work Order: 2015-35 2015-36Material Tracking Sheet  
Bell 206L / 407 and Eurocopter AS350 / AS355  
Standard Lid Fabrication

2 of 2

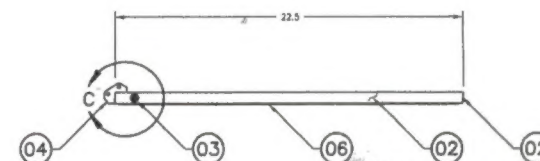
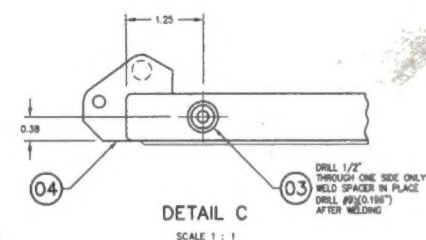
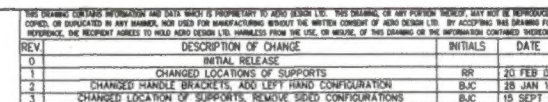
Date Opened: \_\_\_\_\_

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
<b>Step 10</b>				<i>Weld Lid Components</i>		
Step 10.a.	. 1	84262	84262-01	Upper Handle Bracket Assembly		
	. . 4		36273-01	Lid Bracket	321 Stainless, 0.050 Sheet	2014-38
	. . 2		36275-02	Support	304 Stainless, 5/16" Rod	
	. A/R		--	Welding Rod	ER308L TIG Rod	14028
Step 10.b.	. 2		49216-01	Spacer (Lid prop)	304 Stainless, 1/2" Dia.	2015-07
	. A/R		--	Welding Rod	ER308L TIG Rod	14033
Step 10.c.	. 1		36204-10	Placard Bracket	1018 Steel, 0.035" Sheet	2014-91
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	14033
<b>Step 11</b>				<i>Clean Up</i>		
<b>Step 12</b>				<i>Inspection - Final Assembly</i>		
<b>Step 13</b>				<i>Powder Coating</i>		




Symmetrical

2015-36



NOTES:

1. REMOVE ALL BURRS AND BREAK SHARP EDGES
2. WELDING OF 4130 STEEL TO BE COMPLETED BY GTAW METHOD TO AWS 288SC.
3. WELDING ROD SHALL CONFORM TO ER70S-2 OR EQUIVALENT.

 INSTALL ITEM # (HANDLE BRACKET ASSEMBLY) IN ACCORDANCE WITH AERO DESIGN LTD. DRAWING 84262/2  
STEP 2 PLACES.

4. WHEN ASSEMBLY IS COMPLETE, FILL ALL VENT HOLES WITH ROSETTE WELD.
5. THOROUGHLY CLEAN AND POWDER COAT BASKET SUB-ASSEMBLIES PRIOR TO ASSEMBLY.



DETAIL A  
LOOKING AT TOP

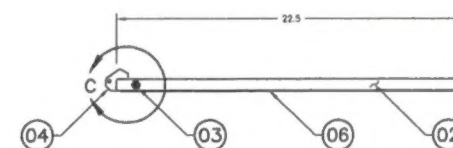
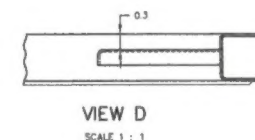
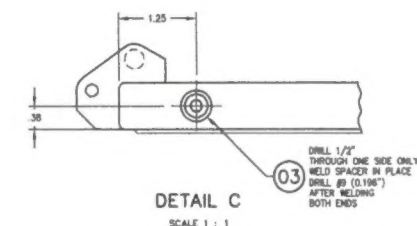
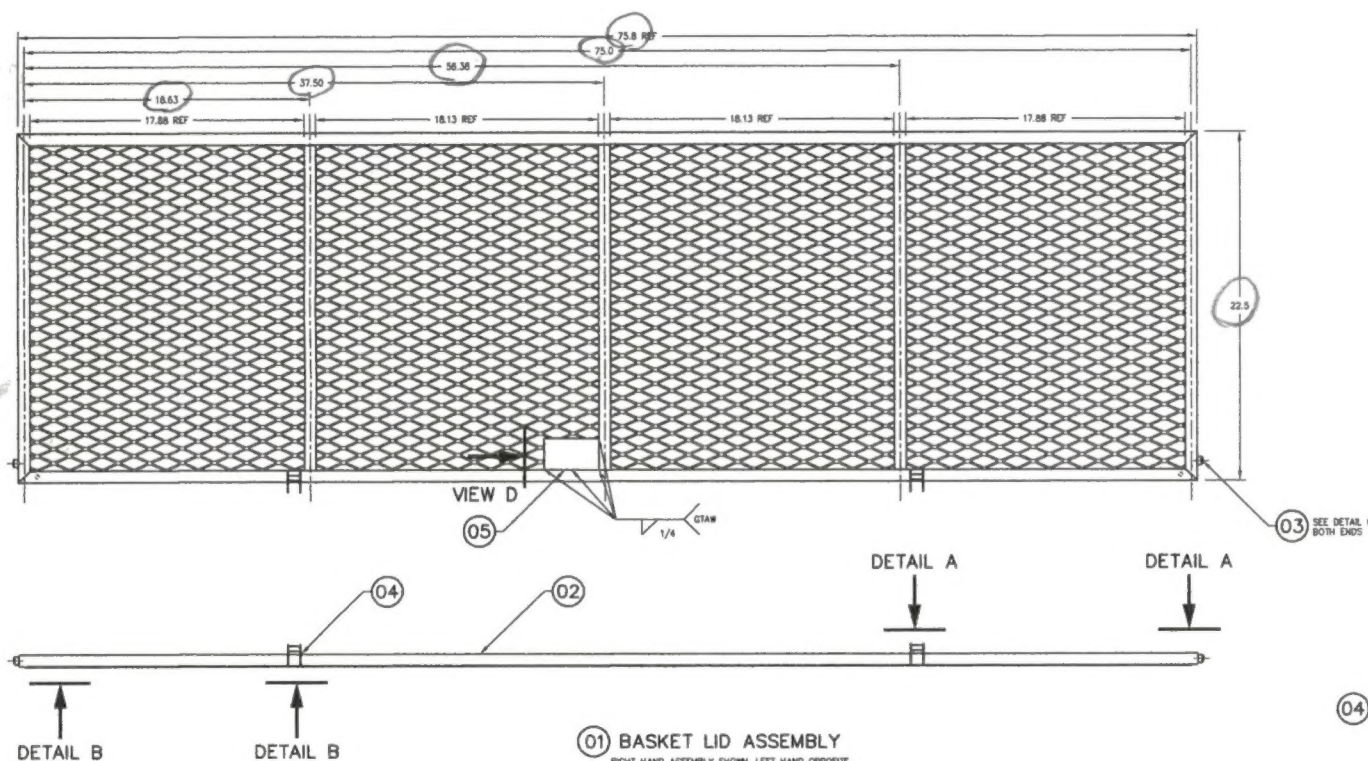
A/R	3/4-16F	06	04	04	MILD STEEL	COMMERCIAL		
	30204-10	03			PLACARD BRACKET			
2	84262	04			UPPER HANDLE BRACKET ASSY			
2	49216-01	03			SPACER			
A/R	--	02			TUBE	4130 STEEL, COND. N	MIL.-T-8758	0.75 X 0.035 SQ. TUBE
	69812-01				BASKET LID ASSEMBLY			
D1	PART NO.	ITEM			DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE
QTY						LIST OF MATERIALS		

APPROVALS		DATE		<b>AERO DESIGN LTD.</b> CONSULTING ENGINEERS, TRANSPORT CANADA APPROVALS, DAR 9003 8013 - 50TH AVENUE N.E., CALGARY, ALBERTA, CANADA, T2C 8P7 tel: (403) 256-9267 fax: (403) 250-8333 <a href="mailto:carol@aerodesign.net">carol@aerodesign.net</a>			
DRAWN: JEFF CLARKE		11 APRIL 2008					
CHECKED: E. BURGOIN							
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS: $\pm 0.010$ X.XXX $\pm 0.003$ X.X $\pm 0.1$ ANGLES: $\pm 1/2^\circ$				QUICK RELEASE CARGO BASKET BASKET LID ASSEMBLY			
SCALE 1 : 4 SHEET 1 OF 1				DRG. SIZE: A1 DRG. NO.: 69812		REV.: 3	

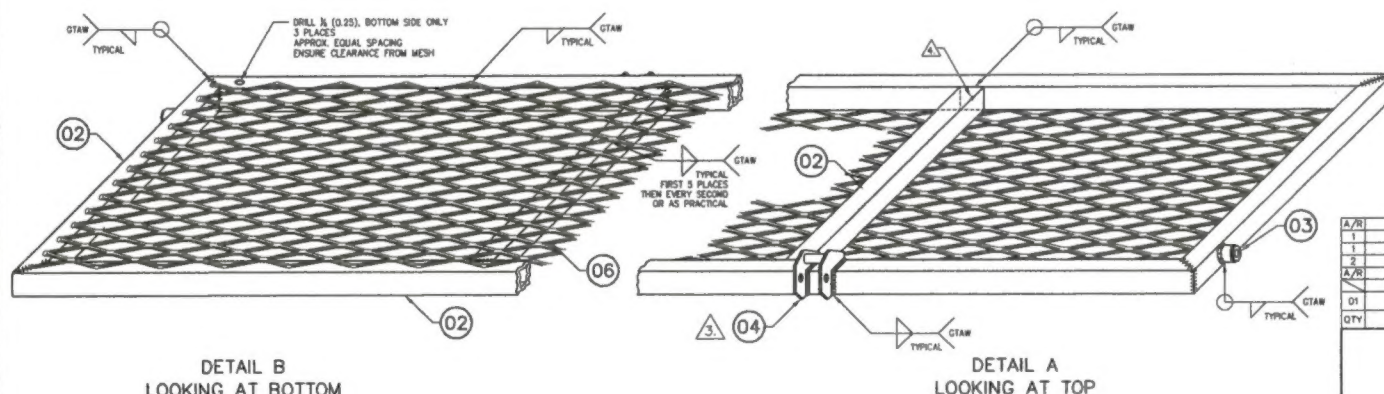



REV	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL RELEASE		
1	CHANGED LOCATIONS OF SUPPORTS	RR	20 FEB 08
2	CHANGED HANDLE BRACKETS, AND LEFT HAND CONFIGURATION	B/C	26 JAN 10
3	CHANGED LOCATION OF SUPPORTS, REMOVE SLOD CONFIGURATIONS	B/C	15 SEPT 11
4	TITLE BLOCK UPDATED: 642862 CHANGED TO 64285, WELDING ROB UPDATED; # OF WELDS DOWN BRACE TUBES INCREASED; REFERENCE DIMENSIONS ADDED	B/C	11/07/2014
	1/4" HOLES FOR BUMPER ADDED, VIEW D ADDED		



NOTES:

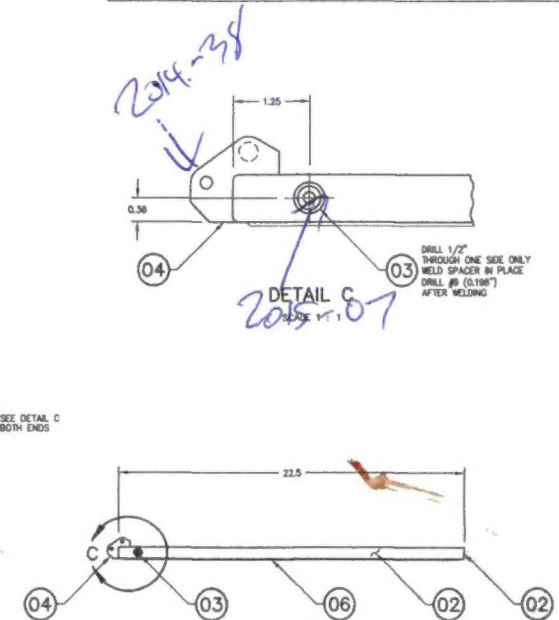
1. REMOVE ALL BURRS AND BREAK SHARP EDGES.
2. WELDING OF 4130 STEEL TO BE COMPLETED BY GTAW METHOD TO AMS 2855C.
3. 4130 AND 1018 STEEL WELDING ROD SHALL CONFORM TO E70TS-2 OR EQUIVALENT.
4. 4130 AND 4130Z STEEL WELDING ROD SHALL CONFORM TO E70TS-2 OR EQUIVALENT.
5. INSTALL ITEM 4 (LID HANDLE PROVISIONS) ASSEMBLY IN ACCORDANCE WITH ACRD DESIGN LTD. DRAWING 64263.
6. DRILL #30 (0.125) HOLES IN LONG TUBE MEMBERS AT BRACE LOCATIONS TO WELD WELD CASSES.
7. ASSEMBLY IS COMPLETE. FILL ALL EXPOSED VENT HOLES WITH ROSETTE WELD.
8. FINISH THOROUGHLY CLEAN AND POWDER COAT LID ASSEMBLY.




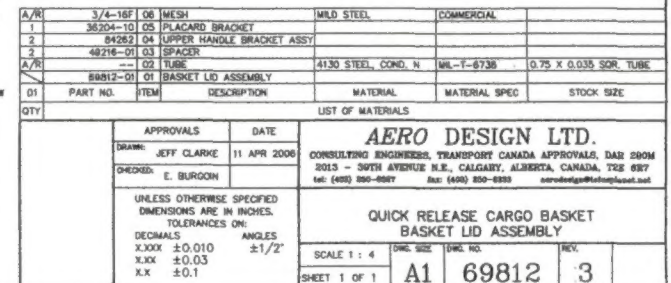
A/R	3/4-16F	08	25	25	MILD STEEL	COMMERCIAL	
	30234-10	05	PLACARD BRACKET				
1	5425-01	04	LID HANDLE PROVISIONS ASSEMBLY				
2	49216-01	03	SPACER				
A/R	---	02	TUBE	ALXI STEEL, COND. N	ML-T-6756	0.75 x 0.035 SQ. TUBE	
	69812-01	07	BASKET LID ASSEMBLY				
01	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC	STOCK SIZE	
QTY	LIST OF MATERIALS						
<div>APPROVALS DATE</div> <div>DRAWN: JEFF CLARKE 11 APR 2006</div> <div>CHECKED: E. BURGIN</div>					<div>AERO DESIGN LTD.</div> <div>9885A MALAPINDA ROAD</div> <div>POWELL RIVER, BC, CANADA, V8C 0G3</div> <div>TEL: 604.483.2376 <a href="http://www.aerodesign.ca">www.aerodesign.ca</a></div>		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE: DECIMALS ANGLES .XXX $\pm 0.010$ $\pm 1/2^\circ$ .XX $\pm 0.03$ .X $\pm 0.1$				QUICK RELEASE CARGO BASKET BASKET LID ASSEMBLY			
SCALE 1 : 4				DWG. SIZE	DWG. NO.	REV.	
SHEET 1 OF 1				A1	69812	4	



REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL RELEASE		
1	CHANGED LOCATIONS OF SUPPORTS	RR	20 FEB 08
2	CHANGED HANDLE BRACKETS, AND LEFT HAND CONFIGURATION	BJC	28 JAN 10
3	CHANGED LOCATION OF SUPPORTS, REMOVE SDO CONFIGURATIONS	BJC	15 SEPT 11



1. REMOVE ALL BURRS AND BREAK SHARP EDGES
2. WELDING OF 4130 STEEL TO BE COMPLETED BY GTAW METHOD TO AWS 288SC.  
WELDING ROD SHALL CONFORM TO E70T5-2 OR EQUIVALENT.
3.  INSTALL ITEM 6 (HANDLE BRACKET ASSEMBLY) IN ACCORDANCE WITH AERO DESIGN LTD. D. 17  
ITEM 2 PLACES.
4. WHEN ASSEMBLY IS COMPLETE, FILL ALL VENT HOLES WITH ROSETTE WELD.
5. THOROUGHLY CLEAN AND POWDER COAT BASKET SUB-ASSEMBLIES PRIOR TO ASSEMBLY.



2064/407



WO# 2015-36

Approved Manufacturing Facility 73-04      Form 20.F.06      Rev. Original 27 May 2013